AIR SEPARATION UNIT

ABSTRACT

[Summary]

[Problem] The present disclosure provides an air separation unit in which a process balance of the air separation unit is unaffected when there are pressure fluctuations inside a regeneration gas pipe, even if two types of gases having a small pressure difference are used as a regeneration gas, and a flow rate of nitrogen waste gas can be adjusted without operator intervention.

[Solution] An air separation unit 100 comprises: a first waste gas control valve V7 which is provided in a first waste gas pipe L22; a first waste gas flow rate control unit F7 which measures a gas flow rate in the first waste gas pipe L22 and adjusts a degree of opening of the first waste gas control valve V7 so that a measured value (F7_pv) which has been measured reaches a preset first waste gas flow rate set value (F7_sv); a second waste gas control valve V71 which is provided in a second waste gas pipe L23; a regeneration gas flow rate control unit F8 which measures the gas flow rate in a regeneration gas pipe L20 and outputs a first output value (mv1) based on a measured value (F8_pv) which has been measured and a preset regeneration gas flow rate set value (F8_sv); and a control unit 80 which uses, as a target set value (80_sv) of the flow rate of a second waste gas, a value (F8_sv-F7_sv) obtained by subtracting the first waste gas flow rate set value (F7_sv) of the first flow rate measuring unit F7 from the flow rate set value (F8_sv) of the regeneration gas flow rate, compares the first output value (mv1) with a second output value (mv2) based on a value (F8_pv-F7_pv) obtained by subtracting the measured value (F7_pv) of the first flow rate control unit F7 from the measured value (F8_pv) of the regeneration gas flow rate control unit F8, controls the degree of opening of the second waste gas control valve V71 on the basis of the lower of the values, and adjusts the second waste gas flow rate.

[Fig. 1]